UNITED STATES PATENT AND TRADEMARK OFFICE

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10/721,548	11/26/2003	Nobuhiro Rikitake	826.1909	6279

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *05 May 2008*.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1 and 3-16* is/are pending in the application.
    4a) Of the above claim(s) *13 and 14* is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1, 3-12, and 5-16* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed on May 05, 2008.

Claims 1 and 3-6 have been amended. Claim 2 has been canceled. Claims 13-14

have been withdrawn. Therefore, claims 1 and 3-16 are presented for further

examination.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claim 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Perkins et al., United States Patent Application Publication Number 2004/0156325

(hereinafter Perkins) in view of Fant et al., United States Patent Application Publication

Number 2004/0076151 (hereinafter Fant).

4.   Regarding claims 1 and 15, Perkins teaches a communications system used in a

network where a plurality of communication nodes are connected [fig.1 and see

abstract], comprising:

- a digital wrapper unit, which is provided in each of the plurality of communication nodes, transmitting/receiving a digital wrapper frame [= digital wrapper frame, paragraphs 0036 and fig.1];

- a converting unit, which is provided in each of first and second communication nodes among the plurality of communication nodes, performing mutual conversion between data in a predetermined format [= client format] and a digital wrapper frame [= digital wrapper frame] [paragraphs 0013, 0037-0044, 0070, 0086 and fig.2]; and

- a network management unit managing states of the plurality of communication nodes [= management and monitoring of each optical channel wavelength, paragraph 0036], wherein said digital wrapper unit transmits to the second communication node a digital wrapper frame obtained by said converting unit in the first communication node in accordance with an instruction from said network management unit, and said converting unit, which is provided in the second communication node, converts the received digital wrapper frame into the data in the predetermined format [= client format] [paragraphs 0013, 0037-0044, 0070, 0086 and figs.1&2];

- a first storing unit storing topology information that represents a connection relation among the plurality of communication nodes [= this network architecture partially runs counter to key architectural principle embodied in the ITU-T OTN architecture and to the G.709 standard layering hierarchy via the shortest possible physical stack, col.6, ll.18-37]; and

- a second storing unit storing route information that represents a

  communication route connecting the first communication and the second

  communication node [= the digital wrapper overhead structure accommodates

  management and monitoring of each optical channel wavelength, col.6, ll.39-

  42].

However, Perkins does not explicitly show a controlling unit giving an instruction to a communication node involved in the communication route based on the topology information and the route information.

In optical transmission network, Fant discloses a controlling unit [= GMPL controller **15**] giving an instruction to a communication node involved in the communication route based on the topology information and the route information [paragraph 0019-0025].

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Perkins in view of Fant by controlling the communication route based on the topology information and route information because the control plane can be operated on the same physical carrier or on an independent carrier [Fant, paragraph 0023]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to ensure that all network reconfiguration occurs in a precise ordered fashion [Fant, paragraph 0006].

5.   Regarding claims 4 and 16, Perkins does not explicitly show wherein: said network management unit further comprises a fault detecting unit detecting a location

where a fault occurs on the network, and an updating unit updating the route information

stored in said second storing unit according to the location where the fault occurs, which

is detected by said fault detecting unit; and said controlling unit gives an instruction to a

corresponding communication node based on the route information updated by said

updating unit.

In optical transmission network, Fant discloses a fault detecting unit detecting a

location where a fault occurs on the network, and an updating unit updating the route

information stored in said second storing unit according to the location where the fault

occurs, which is detected by said fault detecting unit; and said controlling unit gives an

instruction to a corresponding communication node based on the route information

updated by said updating unit [fig.6 and paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to modify Perkins in view of Fant by detecting a location

where a fault occurs on the network because this feature reduces the latency of the

restoration [Fant, paragraph 0046]. It is for this reason that one of ordinary skill in the

art at the time of the invention would have been motivated in order to protect against

other faults [Fant, paragraph 0046].

6.   Regarding claim 6, Perkins does not explicitly show wherein: said network

management unit further comprises a determining unit determining whether or not to set

up a bypass route according to a type of a signal transmitted via a communication route

when a fault occurs on the communication route connecting the first communication

node and the second communication node, and an updating unit updating the route

information stored in said second storing unit if said determining unit determines to set

up a bypass route; and said controlling unit gives an instruction to a corresponding

communication node based on the updated route information when the route

information is updated by said updating unit.

In optical transmission network, Fant discloses a determining unit determining

whether or not to set up a bypass route according to a type of a signal transmitted via a

communication route when a fault occurs on the communication route connecting the

first communication node and the second communication node, and an updating unit

updating the route information stored in said second storing unit if said determining unit

determines to set up a bypass route; and said controlling unit gives an instruction to a

corresponding communication node based on the updated route information when the

route information is updated by said updating unit [fig.6 and paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to modify Perkins in view of Fant by ddetermining

whether or not to set up a bypass route according to a type of a signal transmitted via a

communication route when a fault occurs on the communication route connecting the

first communication node and the second communication node because this feature

reduces the latency of the restoration [Fant, paragraph 0046]. It is for this reason that

one of ordinary skill in the art at the time of the invention would have been motivated in

order to protect against other faults [Fant, paragraph 0046].

7.   Regarding claim 7, Perkins does not explicitly show wherein said determining

unit determines not to set up a bypass route if a communication route on which a fault

occurs is an SDH network or a SONET network.

In optical transmission network, Fant discloses determining unit determines not

to set up a bypass route if a communication route on which a fault occurs is an SDH

network or a SONET network [fig.6 and paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to modify Perkins in view of Fant by determining unit

determines not to set up a bypass route because this feature reduces the latency of the

restoration [Fant, paragraph 0046]. It is for this reason that one of ordinary skill in the

art at the time of the invention would have been motivated in order to protect against

other faults [Fant, paragraph 0046].

8.   Regarding claim 8, Perkins does not explicitly show wherein said determining

unit determines to set up a bypass route if a communication route on which a fault

occurs is an Ethernet system.

In optical transmission network, Fant discloses determining unit determines to set

up a bypass route if a communication route on which a fault occurs is an Ethernet

system [fig.6 and paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to modify Perkins in view of Fant by determining unit

determines to set up a bypass route because this feature reduces the latency of the

restoration [Fant, paragraph 0046]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to protect against other faults [Fant, paragraph 0046].

9.   Regarding claim 9, wherein: a line between the plurality of communication nodes is a WDM transmission line; and each of the plurality of communication nodes further comprises a multiplexing unit transmitting digital wrapper frames that store different data in parallel [paragraphs 0008, 0039, 0040, 00041, 0070].

10.   Regarding claim 10, Perkins further teaches wherein each of the plurality of communication nodes further comprises an equalizing unit equalizing a WDM signal [paragraphs 0007, 0035, 0037, 0069, 0073].

11.   Regarding claim 11, Perkins further teaches wherein said equalizing unit is a variable optical attenuator attenuating WDM light, and a controlling circuit controlling the variable optical attenuator [paragraphs 0007, 0035, 0037, 0069, 0073].

12.   Regarding claim 12, Perkins further teaches wherein said equalizing unit is an optical amplifier amplifying WDM light, and a controlling circuit controlling the optical amplifier [paragraphs 0007, 0035, 0037, 0069, 0073].

Response to Arguments

13.   Applicant's arguments filed May 05, 2008 have been fully considered but they are

not persuasive as following: Perkins teaches a communications system used in a

network where a plurality of communication nodes are connected [fig.1 and see

abstract], comprising: a digital wrapper unit, which is provided in each of the plurality of

communication nodes, transmitting/receiving a digital wrapper frame [= digital wrapper

frame, paragraphs 0036 and fig.1]; a converting unit, which is provided in each of first

and second communication nodes among the plurality of communication nodes,

performing mutual conversion between data in a predetermined format [= client format]

and a digital wrapper frame [= digital wrapper frame] [paragraphs 0013, 0037-0044,

0070, 0086 and fig.2]; and a network management unit managing states of the plurality

of communication nodes [= management and monitoring of each optical channel

wavelength, paragraph 0036], wherein said digital wrapper unit transmits to the second

communication node a digital wrapper frame obtained by said converting unit in the first

communication node in accordance with an instruction from said network management

unit, and said converting unit, which is provided in the second communication node,

converts the received digital wrapper frame into the data in the predetermined format [=

client format] [paragraphs 0013, 0037-0044, 0070, 0086 and figs.1&2]; a first storing

unit storing topology information that represents a connection relation among the

plurality of communication nodes [= this network architecture partially runs counter to

key architectural principle embodied in the ITU-T OTN architecture and to the G.709

standard layering hierarchy via the shortest possible physical stack, col.6, ll.18-37]; and

a second storing unit storing route information that represents a communication route

connecting the first communication and the second communication node [= the digital

wrapper overhead structure accommodates management and monitoring of each

optical channel wavelength, col.6, ll.39-42]. However, Perkins does not explicitly show

a controlling unit giving an instruction to a communication node involved in the

communication route based on the topology information and the route information. In

optical transmission network, Fant discloses a controlling unit [= GMPL controller **15**]

giving an instruction to a communication node involved in the communication route

based on the topology information and the route information [paragraph 0019-0025].

Therefore it would have been obvious to one of ordinary skill in the art at the time of the

invention was made to modify Perkins in view of Fant by controlling the communication

route based on the topology information and route information because the control

plane can be operated on the same physical carrier or on an independent carrier [Fant,

paragraph 0023]. It is for this reason that one of ordinary skill in the art at the time of

the invention would have been motivated in order to ensure that all network

reconfiguration occurs in a precise ordered fashion [Fant, paragraph 0006].

14.   In response to the Applicant's arguments that Perkins fails to disclose topology

information and route information of the present invention, the examiner respectfully

disagrees. Perkins discloses a first storing unit storing topology information that

represents a connection relation among the plurality of communication nodes [= this

network architecture partially runs counter to key architectural principle embodied in the

ITU-T OTN architecture and to the G.709 standard layering hierarchy via the shortest

possible physical stack, col.6, ll.18-37] and a second storing unit storing route

information that represents a communication route connecting the first communication

and the second communication node [= the digital wrapper overhead structure

accommodates management and monitoring of each optical channel wavelength, col.6,

ll.39-42]. Therefore, the combination of Perkins and Fant disclose the claimed featured

above.

15.   In response to the Applicant's arguments that Perkins fails to disclose the first

storing unit and the second storing unit of the present invention, the examiner

respectfully disagrees. Perkins discloses a first storing unit storing topology information

that represents a connection relation among the plurality of communication nodes [= this

network architecture partially runs counter to key architectural principle embodied in the

ITU-T OTN architecture and to the G.709 standard layering hierarchy via the shortest

possible physical stack, col.6, ll.18-37] and a second storing unit storing route

information that represents a communication route connecting the first communication

and the second communication node [= the digital wrapper overhead structure

accommodates management and monitoring of each optical channel wavelength, col.6,

ll.39-42]. Therefore, the combination of Perkins and Fant disclose the claimed featured

above.

16.   In response to the Applicant's arguments that Fant fails to disclose topology

information and route information of the present invention, the examiner respectfully

disagrees. Fant discloses Perkins discloses a first storing unit storing topology information that represents a connection relation among the plurality of communication nodes [= this network architecture partially runs counter to key architectural principle embodied in the ITU-T OTN architecture and to the G.709 standard layering hierarchy via the shortest possible physical stack, col.6, ll.18-37] and a second storing unit storing route information that represents a communication route connecting the first communication and the second communication node [= the digital wrapper overhead structure accommodates management and monitoring of each optical channel wavelength, col.6, ll.39-42]. Therefore, the combination of Perkins and Fant disclose the claimed featured above.

17.   In response to the Applicant's arguments that Fant fails to disclose the first storing unit and the second storing unit of the present invention, the examiner respectfully disagrees. Perkins discloses a first storing unit storing topology information that represents a connection relation among the plurality of communication nodes [= this network architecture partially runs counter to key architectural principle embodied in the ITU-T OTN architecture and to the G.709 standard layering hierarchy via the shortest possible physical stack, col.6, ll.18-37] and a second storing unit storing route information that represents a communication route connecting the first communication and the second communication node [= the digital wrapper overhead structure accommodates management and monitoring of each optical channel wavelength, col.6,

II.39-42]. Therefore, the combination of Perkins and Fant disclose the claimed featured

above.

18.   In response to the Applicant's arguments that none of the cited references

discloses determining unit of the present invention, the examiner respectfully disagrees.

Fant discloses a determining unit of the present invention [see fig.6 and paragraph

0045-0054]. Therefore, in the combination of Perkins in view of Fant disclose claimed

feature as show in above.

Allowable Subject Matter

19.   Claim 5 is objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

Conclusion

20.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

      A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V. Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Thursday and every other Friday (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2151